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THE DEVELOPMENT OF THE TYMPANI SECTION FROM THE TIME OF BACH

BY

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THIS IS TO CERTIFY THAT THE THESIS PREPARED UNDER MY SUPERVISION BY

Adra L. Shutt

ENTITLED THE DEVELOPMENT OF THE TYMPANI SECTION FROM

THE TIME OF BACH

IS APPROVED BY ME AS FULFILLING THIS PART OF THE REQUIREMENTS FOR THE

DEGREE OF Bachelor of Music in Music

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DEVELOPMENT OF TYMPANI SECTION FROM THE TIME OF BACH

Outline

I Introduction

- A- Development of coloring
  - (1) Contributions of different Composers
- B- Early Orchestra
  - (1) Of what it was composed
  - (2) Uses made of it by Composers

II History of the Kettle drums

- A- Primitive Development from History
  - (1) Uses by different peoples
- B- Development of Drummers Guild
- C- Gradual rise to significant place

III General Construction of Kettle Drums

- A- From Medieval to Modern development
- B- Treating of Ludwig and Ludwig's device
  - (1) The newest development of the drums
  - (2) Explaining the action of the Machine drum

IV Range and Abilities of the Kettle drums

- A- Uses made by Companies of Drums
  - (1) Dealing with their melodic treatment.
  - (2) Given examples of drums importance in melodic arrangement

V Comparing Advancement of Tympani from Bach- Brahm

- A- Analyzing Bach's Scores
- B- Analyzing Brahm's Scores

INTRODUCTION

Students of Orchestral music find great solidity and balance of tone in the works of the early masters. Bach's writings are always substantial, but there is no large amount of contrast and variety in them. This is partly owing to the lack of instruments and partly to the meagre technical resources of those wind instruments which he had.

The possibilities of coloring increased as new instruments came into use. Mozart may be said to have made the first systematic attempts at specific tone coloring; however Haydn in his old age advanced beyond Mozart in tone coloring, while Beethoven, who had a special feeling for the individuality of instruments, developed the features of contrast and variety far beyond anything which his predecessors had conceived. Weber's orchestral technique is immense. He understood thoroughly all the requirements of good orchestration, and to this day his works sound full, sonorous and brilliant, even when heard at concerts where the most recent products are displayed. Brahms is one of the moderns who did not master the technique of orchestration, Wagner on the other hand, knew how to score and write deep, sonorous basses without disturbing the clarity of his work. Most of the French composers score beautifully. In all the field of Opera there is not a warmer or more delicately refined score than that of "Faust". Saint Saen's orchestration is both the model and despair of every young composer. Each composer has a distinct style. For instance Tschaikowsky wrote much that was wierd, sombre and melancholy, while Liszt's orchestration is always rich and heavy. Dvorak's writings are always strong and bright, whereas Richard

Strauss writes staccato chords for trumpets and makes horns do things which fifty years ago would have been cast aside as impossible.

The constitution of the orchestra in the early part of the eighteenth century then had reached the basis on which it now rests, except for the fact that the harpsichord was still used. Two trumpets and a pair of kettle drums were introduced when brilliant, militant passages were to be written. The systematic use of wood winds in pairs was just beginning. The delay in this vital matter was due to the hold which the polyphonic style of composition still had. The orchestral Symphony came into existence about the middle of the eighteenth century, and with its advent we find the orchestra of Bach and Handel, slightly modified, and differently used. Hector Berlioz had a truly wonderful insight into the powers of all the Orchestral instruments, and he laid down the principles of the post-Beethoven style of orchestral writing. We find Schubert, Schumann, Mendelssohn and other immediate followers of Beethoven using precisely the same orchestra. Berlioz, however, began at once to give variety to the instrumental body. Many of his advancements were due to the introduction in 1832 of the system of boring and keying of wind instruments invented by Theobald Boehm. This system increased the agility of these instruments and improved their intonation. The climax of orchestral concert music is reached in Berlioz's stupendous "Requiem", which calls for nearly a hundred strings, besides two oboes, four flutes, eight bassoons, four clarinets, twelve French horns, one English horn, four cornets, twelve trumpets, sixteen tenor trombones, two bambardons, four ophicleides, two bass

drums, eight pairs of kettle drums, three pairs of cymbals, and a gong. Such a grouping is a monstrosity, and from an artistic point of view little more than a curiosity. However, it points out the importance that Berlioz placed upon the tympani section of the Orchestra.

HISTORY OF THE KETTLE DRUMS.

The invention of the kettle drums goes back to remotest antiquity. Although we lack formal documents, tradition tells us that they were in use among the primitive people of India, and it is even believed that the kettle drums preceded the trumpet. It is presumed that these instruments as well as the lyre and the flute were invented about the same time, and that experience or chance taught men to blow in a tube, to strike on a stretched hide, or to make strings vibrate. The darkness which surrounds the origin of the kettle drum vanishes when the Hebrew era begins. These people were the first to relate all events and matters of importance in form of manuscripts which have thrown considerable light, not only on chronology, history and religion, but also on secondary questions, and especially on the music of their own race, and on that of a few of their contemporaries. The kettle drums were in great use among them: they called them "throph", which means 'time' or 'sound'. The Latin term "Tympanum" is derived from Greek and means 'to strike'. Kircher says that the instrument had the shape of a small canoe, and was covered up tightly by a hide. The kettle drummer struck it by means of a metal drum stick, sometimes hastily, sometimes slowly, and sometimes hard or feebly, in about the same ways as today. Others claim that the "throph" was very much kettle shaped, and out of these contradictory opinions it is difficult to know which was the exact shape of the Hebrew "throph", or kettle drum. However, its existence at that time cannot be denied, as it is mentioned very often in the Old Testament, in which we read that the kettle drum was generally played by women, sometimes by men.

Had this kettle drum the shape of this drawing  ,it was carried with the left hand by means of the handle and struck with the right. The Hebrews used it in music devoted to God; also in festivities, after a victory; in meetings and during meals, and finally in dances. The use of the kettle drum spread afterwards into the pagan population, where they were employed in rejoicing and in religious ceremonies, especially in honor of Bacchus. The Phrygian women celebrated the mysteries of the virgin at the sound of the bronze kettle drums struck with a brass stick or the hand. Saint Isidore and Papias give us the description of a kettle drum attributed to Her. It is a wooden hoop covered with a hide on one side only. Alteburg (Trompeter and Parkhurst, Halle 1795) tells us that he found on some coins, and an old bas-relief, the reproduction of a Bacchus festival, in which a maiden is seen holding a tabor with one hand, preceded by two musicians who play, one on a horn, the other a kind of flute with two pipes. Sponius and Pignorius make a distinction between the light and heavy kettle drum, for besides the brass kettle drum already mentioned, there was another kind, small and orbicular, tightly covered with a hide or leather and struck with a small stick,or the hand. The scientist, Bonarti, writes the same thing, and adds that in those days as well as in our own, they had the habit of placing around the wooden hoop, small metal blades, which mixed their shrill sound with the deep resonance of the hide. By this clear description it is easy to recognize our actual tabor, and the same man asserts that he saw a similar instrument on a Roman bas-relief. These examples prove in a conclusive way the simultaneous existence of our tabor("Tympanum leve")

and the kettle drums ("Tympanum grave"). But while the former was taking the place of the second in festivities and in religious ceremonies, the latter was becoming a war instrument. "The Persian had no horn or trumpet to give the signal of battle. They used a certain big basin covered with leather. They struck it on every side and thus it rendered a hollow and terrible sound similar to thunder", to quote an ancient writer. Pignorius gave two models of "Tympanumbellum" (or war kettle drums) Here is the first:-





The second produces exactly our drum. It consisted of a hollow wooden cylinder, generally a section of a palm tree trunk covered on each end with a hide and struck with two sticks. The East Indians employed a drum like this



called "Naguar" or "Nakara". Here we have them, three instruments of the same kind which are traced back to antiquity:- the kettle drum, the tabor, and the drum. The question as to whether the kettle drum had a determined sound is a question which has been impossible to solve. There is nothing to indicate that it had one, nor is there anything which authorizes us to think to the contrary. The Orient, where the kettle drums first appeared, kept using it, but with the changes of shape and application. In Persia the Noblemen employed a small kettle drum to hunt the eagles. When they entered the forest they struck it violently so as to send the eagles flying about and thus be enabled to shoot at them. In Syria, at balls, festivals,and other rejoicings given by the Sovereign, they placed in a circle eight kettle drums of different sizes, each one giving a different sound, the largest drum being in the center. The musicians struck them with their fists without written music, but following a

certain harmonic combination. In the Orient there is one form of drums in which two are suspended or rather fastened to a carved piece of wood which separates the two drums, the wood resting upon the floor. In another form, a servant carries the kettle drum on his shoulder, and the musician plays while walking back of him. This is used in the Mohammedan wedding to bring the bride to the groom's house. Illustrated are two small Persian drums.



"The basin is made of metal, the hide being that of a cow. Both drums are tied to the belt and are played with sticks."(G.Boumani, from "Translated from the Bible.") Under all probabilities the kettle drums were introduced in Europe by the Saracens when they invaded Spain. Their kettle drums were much larger than the ancient ones and had about the same shape as ours. They were first employed in war. In 1547 Ladislaus, King of Poland, sent an Ambassador to France. When he stopped at Nancy, the "Chronic" of the times said that nobody had seen such big drums, looking like Caldrons and carried on horses. C. A. Boracchi asserts in his,"Tympani Manual" that in 1600 one of his ancestors, who was a kettle drummer had an instrument that seems of a more modern construction. The drum, as we know, was definitely adopted for the infantry, while the kettle drum became the characteristic instrument of the cavalry; then a certain number of trumpets were added to them to make a war-like music. When a regiment distinguished itself, a silver kettle drum was generally given as a reward. A few of them always had a Negro who served as a kettle drummer; they would dress him to represent a Turk, and mount him on a white horse, which may confirm the opinion that the kettle drum was imported into Europe by the Sarcens.

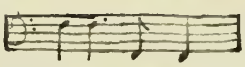
The golden age of the kettle drummer, however, was the time of chivalry; then they formed together with the trumpeters, a real guild, and as it was their honorable privilege to give the opening signal at the tournament of the knights. They thought themselves entitled to look down on other ordinary musicians, and to hold themselves aloof from them. The members of this guild also called themselves artists, as their manners of playing were not known to every musician, and were even kept secret. Everyone who wanted to enter their guild was bound to a master for six years, and had to pay him one hundred thalers. At the end of the time of apprenticeship every kettle drummer and trumpeter had to undergo an examination in order to perform in public as a privileged drummer or trumpeter. In the year 1426 the Emperor Sigismund gave to the town of Augsburg the privilege of keeping a band of kettle drummers and trumpeters. Somewhat later, other free towns obtained the same concession, which was always regarded as an especial privilege. For according to an imperial decree, only Princes, Noblemen and such persons as possessed the degree of Doctor were allowed to have kettle drummers at their banquets, dances, etc. It follows that from the regard paid to the privilege of keeping kettle drummers and trumpeters, the office of these musicians was thought to be a very high and important one. These men were subject solely to the jurisdiction of the Princes and were not allowed, when once members of the privileged body, to perform in company with men of the town band. (not even in church.) Although the guild maintained its reputation for more than three hundred years, it gradually sunk in esteem as the development of music took a higher course, and its

privilege became totally extinct. Never-the-less, the kettle drum is still a highly valued instrument. The art of playing it with proper accuracy and taste is probably more difficult today than formerly, although the fact may be less acknowledged by the great public now, than before. Before the kettle drums were introduced into the orchestra they simply had to play the bass part to the trumpets. For that reason they were tuned in tonic and dominant, a practice which has kept up, even after they became an orchestral instrument. The older masters hardly ever use the kettle drums except to indicate the tonic and dominant in pieces of pompousness and warlike character; and for this reason they mostly grouped the drums together with the trumpets, as in Gluck and Mozart Operas.

The shape and general construction of the modern drum has changed very little from the kettle drum of a century ago. A hemisphere of copper, sometimes of brass, over the top of which is stretched a parchment, bellum, or as it is commonly called, the "head". Around the edge of the drum are screws by which the head can be tightened or loosened, suiting the performer. The tuning of the kettle drum is not only difficult but has also been connected with considerable loss of time. For this very reason composers were formerly compelled to allow kettle drummers considerable time whenever a change of pitch was required. As the kettle drummer in his hurry generally employs two or three screws only, next to him for tuning, the pressure hoop gradually gets out of position, the tension on the head is uneven, and an indistinct tone is the result. In order to avoid this, a mechanism has been constructed whereby the tension can be evenly affected by one single turning of the hand,

solving the problem through modern technique by the invention of a machine kettle drum with a pedal. Ludwig and Ludwig, a Chicago firm of drum makers seem to have solved the problem more completely than has here-to-fore ever been solved. This pedal, or machine drum solves the problem too of correcting a roll if not in tune without interrupting it, as the tuning is accomplished by the feet. The pedal consists of a lever which on one end has a shoe with a heavy club or ball, on which to tread with the foot for the purpose of tuning it. The other end of the lever is fixed to a shaft with a so-called eccentric. The latter presses upon a lever with a bolt in the middle by which the plate is moved. Having moved the pedal, either downward (to raise the pitch) or upward (to lower the pitch) the heel presses sideways against a ring shaped spring which falls into a tooth of a rack, thus fixing the pitch. This rack is connected with a pointer showing on a dial plate whether the desired pitch has been reached. This is however not always perfectly reliable as the heads of the kettle drums are affected by the changing temperatures of the theatres and concert rooms. And since there exists no remedy against that, a good ear will always have to be the best standard. Before being used at all, machine kettle drums are tuned by the adjusting screw in B flat and F. Although the machine kettle drums are the ideal drums for Opera and Symphony Orchestras their heavy construction together with the cost, which averages about five hundred dollars, makes them practically impossible for the average drummer. For general use the simple screw type will probably always hold its own.

There are low and high kettle drums. The low kettle drum

can be tuned to any note from F below the bass clef to C in the second space; while the high kettle drum goes from B flat on the second line to F on the fourth. The composer indicates at the beginning of the score the two notes first required of the drums, and the player tunes his drums accordingly. In the older scores these two notes were almost invariably the tonic and the dominant (key note and fifth) of the key of the composition, and these notes were the only ones played by the tympani during the movement of the piece. With the increasing prevalence of dissonant harmonies the drums are often allotted any note of the harmonies and are furthermore required constantly to re-tune in the midst of a movement to follow the free modulations of modern chromatics. The drums find their main service in heightening the intensity of a climax by the dramatic thrill of their roll. They are a vast rhythmic factor of the orchestra. Previous to Beethoven the kettle drums were tuned tonic and dominant, but this master introduced the style of tuning the tonic below rather than above the dominant, making an interval of a fifth instead of a fourth, as was formerly the interval. Beethoven also saw the advantage of tuning his tympani in still other ways, and in the finale of the Eighth Symphony and the Ninth he wrote for them in octaves at their extreme compass  (F to F) Again, in the beginning of the last act of "Fidelio" he wrote their parts in A and E flat in a dissonant passage of much dramatic power. The tympani have sometimes been used as solo instruments, and Beethoven made clever use of the drums in having them introduce the motif  at the very opening of his "Violin Concerto". Again in the slow movement of the Ninth Symphony he made the two

drums play simultaneously on two notes of a chord. This was also novel. In the Andante of his First Symphony he had already made the tympani play the bass to a melody of violins and flutes, and in the Fourth Symphony the tympani take their turn with the other instruments in playing the theme of two notes often repeated. Beethoven thus paved the way for subsequent composers to make a wide and varied use not only of the tympani but of other percussion instruments.

Weber followed Beethoven's example and wrote for the tympani in C and A in the incantation scene of "Der Freischutz" and Wagner made similar use of the drums in the beginning of the third act of "Siegfried" tuning them C and F sharp below. Berlioz used an ominous roll descriptive of the approaching storm in his "Symphonie Fantastique", and even more dramatic use has been made of the drums in "Die Walkure" where the rhythm of the Hunding motive is sounded as a foreboding. One of the earliest examples of this melodic treatment of the drums is Bach's Christmas Oratoria in which they have a solo passage at the commencement of the number.Richard Wagner in his " Ring of the Niebelunge" has written for two sets of kettle drums and two players. He makes splendid use of the drums for effect as for instance:- the entrance of the giants in "Das Rheingold" and in "Siegfried's killing the dragon, and still again in the Funeral March from his "Gotterdammerung" The kettle drum has been considered of so little importance harmonically that they are still sometimes treated as an insignificant part of the orchestra. Verdi and Massenet both have sometimes in their works written notes to be played by the drums not in harmony with the rest, evidently

trying to avoid a change in tuning, further proof that they did not consider the drums to serve as important a part in composition as they are capable of serving.

In order to find just what increase of instrumental character the tympani section of the Orchestra received from the more modern composers over the earlier writers, I chose to compare some works of Johann Sebastin Bach with Johannes Brahms, a writer of a more recent period.

Bach in his "Ein feste Burg ist unser Gott" scored sparingly for the tympani. Melodically it is tonic and dominant, and he seems here to have used the tympani more to stress the chord tonality than for any particular rhythmic effect which he might have secured from the drums. There is no changing of the drums in pitch, and their greatest emphasis appears in forte passages. Of this entire number of six hundred and four measures he scored one hundred and twenty-one for the tympani. In his "Overtures in D" he has used the tympani for their rolling, droning effect, rather than any melodic use of them, it seems. From the entire scoring of three hundred and ten measures he used the tympani in one hundred and twelve measures. In the "Magnificat in D", out of the three hundred eighty three measures in which Bach scored for full orchestra, he wrote one hundred twenty measures for the tympani, giving this section of the orchestra more prominence in appearance than he has done previously. However, in his "Matthaus Passion", he wrote two thousand six hundred eighty five measures, and out of this great number he actually scored for the drums in only one hundred and five measures. The scoring seems weak and unimportant when it does appear.

Rarely has he given the tympani any particular individuality, using them more for certain very simple rhythmic and melodic effects, usually stressing the rhythmic effect more than the melodic. He placed his brass section above his wood winds in his score writing, which causes confusion to those accustomed to reading the more modern scores. Out of the entire number of two thousand three hundred and twenty one measures composing the complete writing of "Die Hohe Masse", he actually employed the tympani in one hundred eighty measures, and then only in such a simple fashion as the following example:



I may say that Bach's writing for the tympani is seldom more elaborate rhythmically or melodically than the example just given above, which was taken from the tympani score in his work, "Die Hohe Masse." Brahms employed the tympani in the same key throughout the entire work of his "Variations uber ein thema von Jos. Haydn" and scored for the drums in eighty two measures out of the entire four hundred and sixty seven. In his "Symphony No. 3 in F" he has done remarkably different. Of the eight hundred thirty four measures comprising the entire number, he has devoted only fifty six of these to the tympani. However, it is necessary that the drummer be more skilled than he need be to play a Bach number, for in this Symphony, Brahms changes the key from F to A and back to F again, in the tympani. In the Allegro movement the drums have been playing F - C, and with only one measure rest in which to mute C, the drums must be changed to play B flat, as shown:



In his "Symphony No.4 in E" Brahms has the tympani playing this passage,



showing that the drummer necessarily must be a better musician than was demanded in the days of Bach. Then in the Allegro giocoso movement he has the tympani playing in F. G. and C., which is the first we see of three kettle drums. Again he has them playing in E.G.B. Out of the total number of one thousand two hundred twenty six measures, he has written for the tympani in three hundred twenty six measures, in such a manner that the drummer begins to receive recognition as quite a necessary musician in the orchestra. Brahms again wrote profusely for the tympani in his "Un Garische Tanze", when he actually scored one hundred seventy six measures for that section of the orchestra, out of the entire number of three hundred forty seven measures, which makes a percentage of almost half in which he actually had the drums playing. He also had his tympani playing in G.D; D.A; and F.C., necessitating that the drums be changed in pitch three times, thus seeming to be employing them more melodically than rhythmically in his score. In his "Triumphlied", Brahms has used the tympani as a beautifully melodic bass. Of the six hundred ten measures in the entire work he scored one hundred seventy two for the tympani. Although the percentage of his use of the drums here isn't as large as in his " Un Garische Tanze" one may say he has employed them here with more musicianship. The development of the individuality of the tympani section between the time of Bach's period of writing and that of Brahms is quite easily seen. In its own realm the tympani has become more of a solo and less of an accompanying instrument.

BACH

TITLE	TOTAL NO MEAS.	NO.MEAS.FOR TYM.	PER CENT
"Ein feste Burg ist Unser Gott"	604	121	.20
"Overture in D"	310	112	.36
"Magnificat in D"	383	120	.31
"Matthaus Passion"	2685	105	.03
"Die Hohe Masse"	2321	180	.07

BRAHMS

TITLE	TOTAL NO. MEAS.	NO. MEAS.FOR TYM.	PER CENT
"Variation uber ein thema"	467	82	.17
"Symphony No.3 in F"	834	56	.06
"Symphony No.4 in E"	1226	326	.02
"Ungarische Tanze"	347	176	.5
"Triumphlied"	610	172	.2

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